

REMARKS/ARGUMENTS

Claims 1-18 were pending at the time of the mailing of the outstanding Office Action. By this amendment, claims 1-4, 6, 8, 11, 13, and 17 have been amended. Claims 17 and 18 have been cancelled without prejudice or disclaimer as to the subject matter claimed therein. Claims 19 and 20 have been added.

In the Office Action of August 29, 2006, the Examiner rejected claim 13 under 35 U.S.C. § 112, second paragraph, as being indefinite because the phrase “said free radical inhibitor” lacked antecedent basis in claim 2. The Examiner rejected claims 1, 2, 5-13, and 15-17 under 35 U.S.C. § 102(b), as anticipated by, or in the alternative under 35 U.S.C. § 103(a), as obvious over US Pat. No. 3,429,950 to Parker et al. (hereinafter “Parker”). Claims 1, 5-9, and 15-18 stand rejected under 35 U.S.C. § 102(b), as anticipated by, or in the alternative under 35 U.S.C. § 103(a), as obvious over US Pat. No. 5,985,785 to Lane et al. (hereinafter “Lane”). Claims 1-18 stand rejected under 35 U.S.C. § 103(a), as obvious over Parker in view of US Pat. No. 6,063,864 to Mathur et al. (hereinafter “Mathur”) or Lane. The Examiner rejected claims 1, 2, 5-7, 9-12, 16 and 17 under 35 U.S.C. § 102(b), as anticipated by, or in the alternative under 35 U.S.C. § 103(a), as obvious over US Pat. No. 4,167,552 to Hayashi et al. (hereinafter “Hayashi”). Finally, claims 1-3, 5-7, 9-12, 14 and 16-18 stand rejected under 35 U.S.C. § 103(a), as obvious over Hayashi in view of Mathur or Lane.

Claim 13 has been amended to depend from claim 10, which provides antecedent basis for the phrase “said free radical inhibitor.” Withdrawal of the rejection under 35 U.S.C. § 112, second paragraph is respectfully requested.

Claim 1 has been amended to recite that the molding compound is a product of electron beam irradiation that is non-reversibly crosslinked to provide a stable, partially crosslinked compound that is capable of being further crosslinked. Parker does not teach or suggest such a compound but instead provides a “B-stage” resins that differs from the compound claimed. Parker describes three categories of resin: A-stage, B-stage and C-stage. A-stage is described as “comparatively short, linear, functional molecules.” B-

stage resins are “composed of longer chains, still functional.” A C-stage resin is described as “so cross-linked that it is infusible and insoluble.” (Parker, column 1, line 68 – column 2, line 2.) Parker further describes B-stage polyesters as “partially polymerized to a degree between the gel point and the fully cured state” (column 2, lines 3-5). Additionally, Parker indicates, “Premature cross-linking of the double bonds during esterification and consequently gelation, may be obviated by the use of inhibitors, such as hydroquinone” among others (column 4, line 73 – column 5, line 3). From these statements, it is clear that Parker does not describe a B-stage resin as one that is partially cross-linked as recited in the claims.

Furthermore, Parker does not accomplish a partial polymerization by irradiation as recited. Parker’s method calls for polymerization in the presence of quinone modifiers. As described in the specification, the presence of compounds other than the monomer and oligomer may result in a modification of the properties of the final product. Therefore, this limitation is not a process limitation but instead implicates the properties of the final product. Therefore, it is respectfully submitted that claim 1 patentably distinguishes over Parker, as do claims 5-9 and 15-16, which depend from and include all the limitations of claim 1.

Similarly, claims 2-4 also distinguishes over Parker. Claim 2 recites a method of making a thickened compound that includes partially crosslinking an oligomer and a monomer by irradiation to provide a stable, partially crosslinked composition that is capable of being further crosslinked. The methods recited in claims 3 and 4 also recite similar elements. Parker does not teach or suggest such a method involving partial crosslinking, as discussed above, or the use of irradiation to create a stable, partially crosslinked composition. Instead, Parker relies on the use of quinone inhibitors to obtain a B-stage resin. Therefore, it is respectfully submitted that claims 2-4 patentably distinguishes over Parker, as do claims 10-13, which depend from and include all the limitations of claim 2.

The Examiner maintains that claims 1, 5-9 and 15-18 are anticipated by or obvious over Lane. The Examiner reasons that Lane provides a B-stage and C-stage polymer and that the use of electron beam and peroxide for final crosslinking of a B-stage

polymer. However, Lane provides a metal-polymer complex in which a metal salt is reduced to elemental metal during or after final cross-linking. Lane does not teach or suggest the use of irradiation to provide a stable, partially crosslinked compound as recited in claim 1. Instead, Lane discusses the "B-stage" polymer as an intermediate stage during the processing of A-stage material to C-stage material. See, for example, column 9, line 12 – column 10, line 6 and Examples 1 and 2. Therefore, even assuming that the Examiner is correct in stating that Lane discloses a B-stage polymer, Lane's disclosure does not enable one of skill in the art to provide a stable, partially cross-linked compound as recited in claim 1. For this reason, claim 1 and claims 5-9 and 15-16 which depend from claim 1 and contain all the limitations of claim 1, patentably distinguish over Lane.

Claims 1-18 also patentably distinguish over Parker in view of Mathur or Lane. The distinctions between the claims and the disclosures of Parker and Lane are provided above. Additionally, Mathur also does not provide a stable, partially cross-linked compound as recited in the claims. The Examiner maintains that "both Mathur and Lane teach and equate various polymerizartion (or crosslinking) methods such as heat, UV irradiation and electron beam." However, even if Mathur and Lane equate such methods, they clearly do so with respect to complete polymerization and crosslinking. These references do not teach or suggest stable partial crosslinking by any method, much less specifically by irradiation. Therefore, the Parker, Mathur and Lane references do not teach or suggest all of the limitations of the claims and claims 1-18 patentably distinguish over Parker, Mathur and Lane, individually and in combination.

Claim 1, 2, 5-7, 9-12, 16 and 17 stand rejected as anticipated by or obvious over Hayashi. The Examiner indicates that a completely crosslinked unsaturated polyester with any amount of styrene would meet the claims. Claims 1 and 2 have been amended to specifically recite that the compound is a stable, partially crosslinked compound. No teaching or suggestion of such a compound by Hayashi is observed. Therefore claims 1 and 2 patentably distinguish over Hayashi, as do claims 5-7, 9-12, 16 and 17, which depend from and include all the limitations of claim 1 or claim 2.

The Examiner also rejected claims 1-3, 5-7, 9-12, 14, and 16-18 as obvious over Hayashi in view of Mathur or Lane. The distinctions between the claims and Hayashi, Mathur and Lane, as provided above are repeated herein. The Applicants maintain that none of these references teach or suggest all the limitations of the claims and that therefore, the claims patentably distinguish over Hayashi, Mathur and Lane, either independently, or in combination.

New claims 19 and 20 have been added. Support for these claims may be found in the specification at page 3, lines 8-11, at page 4, lines 21-23 and in claims 8 and 13.

The Applicants maintain that the pending claims patentably distinguish over the prior art. Withdrawal of the rejections of the claims under 35 U.S.C. § 112, second paragraph, 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) and the issuance of a Notice of Allowance is respectfully solicited.

The outstanding Office Action was mailed on 29 August 2006. The Examiner set a shortened statutory period for reply of 3 months from the mailing date. Therefore, a petition for a two month extension of time is hereby made with this response. In this response, claims 17 and 18 have been cancelled and claims 19 and 20 have been added. The Commissioner is authorized to charge any fee required with the filing of this paper or to credit any overpayment to Deposit Account 15-0450.

Respectfully submitted,

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